

Claims:

1. A cyclohexyl based Rigid Ring Amino Acid with an Effective Methylene Length greater than 5 and less than 27 and a Carbon Number greater than 10 and less than 34.
2. A cyclohexyl based Hindered Rigid Ring Amino Acid with an Effective Methylene Length greater than 4 and less than 27 and a Carbon Number greater than 9 and less than 34.
3. A polyamide comprising at least one monomer selected from the group consisting of Rigid Ring Amino Acids with an Effective Methylene Length greater than 5 and less than 27 and a Carbon Number greater than 11 and less than 34.
4. The polyamide of claim 3 wherein at least one Rigid Ring Amino Acid has an Effective Methylene Length greater than 8 and less than 18.
5. The polyamide of Claim 4 further including at least one cyclohexyl based Rigid Ring Amino Acid having an Effective Methylene Length greater than 8 and less than 18.
6. The polyamide of Claim 4 further including at least one Hindered Rigid Ring Amino Acid.
7. The polyamide of Claim 4 further including at least one second monomer selected from the group consisting of 6-aminohexanoic acid, 7-aminoheptanoic acid, 8-aminooctanoic acid, 9-aminononoic acid, 10-aminodecanoic acid, 11-aminoundecanoic acid and 12-aminododecanoic acid.

8. The polyamide of Claim 5 further including at least one Asymmetric Rigid Ring Amino Acid Pair.

9. The polyamide of claim 8 wherein each of at least one Asymmetric Rigid Ring Amino Acid Pair have the same Effective Methylene Length.

10. The polyamide of Claim 9 wherein at least one Asymmetric Rigid Ring Amino Acid Pair consists of Hindered Rigid Ring Amino Acids.

11. The polyamide of claim 7 further including 11-aminoundecanoic acid.

12. The polyamide of claim 8 further including 11-aminoundecanoic acid.

13. The polyamide of claim 7 further including 12-aminododecanoic acid.

14. The polyamide of claim 8 further including 12-aminododecanoic acid.

15. A polyamide comprising at least one monomer selected from the group consisting of cyclohexyl based Hindered Rigid Ring Amino Acids with an Effective Methylene Length greater than 4 and less than 18.

16. The polyamide of claim 15 further including 6-aminohexanoic acid

17. The polyamide of claim 16 wherein at least one cyclohexyl based Hindered Rigid Ring Amino Acid has an Effective Methylene Length of 5.

18. The polyamide of claim 17 further including at least one Asymmetric Rigid Ring Amino Acid Pair each of which has an Effective Methylene Length of 5.

19. The polyamide of claim 17 further including at least one cyclohexyl based Rigid Ring Amino Acid with an Effective Methylene Length of 12.